Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td colspan="2">Application No.</td><td colspan="2">Applicant(s)</td><td>✓</td></tr>
<tr><td colspan="2">10/003,165</td><td colspan="2">UHLIK ET AL.</td><td></td></tr>
<tr><td></td><td colspan="2">Examiner</td><td colspan="2">Art Unit</td><td></td></tr>
<tr><td></td><td colspan="2">Salman Ahmed</td><td colspan="2">2666</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11/14/2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-11_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _11/14/01_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2.   Claims 1, 2, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated

by Chuah et al. (US PAT 6917600), hereinafter referred to as Chuah.

In regards to claims 1, 2, 10 and 11 applicants disclosure of a data networking protocol

comprising: one or more control commands including one or more control commands

selectively employed to establish, manage and tear-down a communication session by

and between elements of a data network is anticipated by setup message (column 2

line 43), three new hand-off control messages (column 2 lines 10-11) and Call-

Disconnect-Notify message (column 11 line 35). One or more attribute-value pairs (AVP), selectively employed by a network element to define one or more parameters of an accompanying control command, the AVPS including one or more mobility management AVPS to facilitate exchange of mobility information between at least a subset of the network elements of the data network participating in a point-to-point component of the communication session is anticipated by (column 8 lines 4-11) additional Attribute Value Pairs (AVP) are defined for use in the L2TP control messages, hence, becoming mL2TP control messages. These additional AVPs are for supporting the multi-hop features and call transfer features.

In regards to claim 2 the mobility management Attribute-value pairs include an attribute value pair denoting whether an incoming call request is a new call or a handoff is anticipated by (column 12 lines 60-67 and column 13 lines 1-2) the steps of combining hand-off control messages (CCRQ, CCRP, and CCCN) with the tunnel configuration (establishment) control messages (SCCRQ, SCCRP, and SCCCN) and are, respectively, concurrently transmitted between LACs. So the messages can either be purely SCCRQ having a tunnel configuration (establishment) control part or SCCRQ with CCRQ having a hand-off part as well.

In regards to claim 10 machine accessible storage medium and communication signal by the network element is anticipated by (column 20 lines 26-34) FIG. 16, a high-level block diagram of a representative NAS. NAS is a stored-program-control based processor architecture and includes processor, memory for storing program instructions

and data, e.g., connection tables, etc., and communications interface(s) for coupling to

one or more communication facilities as represented by a path.

In regards to claim 11 Chuah teaches (column 8 lines 10-11) that L2TP, AVPs are used

to further specify control signaling.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 3, 4, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Chuah and in view of Akhtar et al. (US PAT 6769000), hereinafter

referred to as Akhtar.

In regards to claims 3, 4, 5, 6 and 7 Chuah teaches of using attribute-value pair for

mobility management as described in the rejection of claim 1 above.

In regards to claims 3, 4 and 5 Chuah does not explicitly teach a deterministic element

attribute-value pair (COOKIE AVP) or random element attribute-value pair (K_n AVP).

In regards to claim 6 and 7 Chuah does not explicitly teach authentication AVP during hand-off.

In regards to claims 3, 4 and 5 Akhtar teaches that IPM-L2-Address AVP (column 84 lines 15-20), carries the L2-Address of IPM Client connection. The AVP carries both Address and Data. The types of Addresses include, among others, 802.3 Address (0), 802.11 Address (1), IMSI (2), and MIN (3). Akthar further teaches IPM-SMM-MN-Key AVP (column 84 lines 59-61) carries the shared secret key between Serving Mobility Manager and Mobile Node. This key is only valid for the session. In regards to claim 6 and 7 Akthar teaches (column 83 lines 5-7) that Integrity-Check-Value AVP is used for hop-by-hop message authentication and integrity.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chuah's teaching to incorporate Akhtar's teaching of deterministic element attribute-value pair (COOKIE AVP), random element attribute-value pair (K_n AVP) and authentication AVP. The motivation is that in L2TP protocol, AVP gives an advantage to maximize extensibility while still permitting interoperability, a uniform method for encoding message types and bodies used throughout L2TP. As such, necessary network parameters for session identification or authentication can be encoded in AVP for extensibility while still permitting interoperability.

5.   Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Chuah and in view of Tummala et al. (US PAT 6915345), hereinafter referred to as

Tummala.

In regards to claims 8 and 9 Chuah teaches of using AVP to do authentication during

network hops.

In regards to claims 8 and 9 Chuah does not specifically teach about certificate AVP

and validation from a third party certification agency or authority.

Tummala teaches (column 14 lines 33-38) that the encryption can be made using a

shared secret or public keys, in the same manner as the Key AVPs returned by the

AAAH in the Diameter Mobile IP Extensions when setting up the data security. If using

PKI, the broker must be able to interface with a Certificate Authority (CA) or have those

keys in storage.

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify Chuah's teaching by incorporating Tummala's teaching of

using security certificate in conjunction with certification authority. The motivation is that

using security AVPs with security certificate in conjunction with certification authority or

agency will enhance network security and prevent security breach.

Prior art pertinent to the application but not used in the office action:

Method and apparatus for handoff of a connection between network devices Verma et al. US PAT 6522880
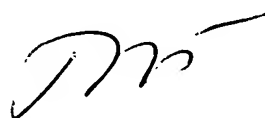
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Salman Ahmed
Examiner
Art Unit 2666

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DANG TON
PRIMARY EXAMINER